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37 CFR 41.37 APPEAL BRIEF

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Sir:

This is an appeal from the final rejection mailed April 23, 2004, of claims 10-22. A Notice of Appeal was timely filed July 23, 2004.

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I. **37 CFR 41.37(a)**

This brief is accompanied by the fee set forth in 37 CFR 1.17(c), and sets forth the authorities and arguments on which the appellant will rely to maintain the appeal.

II. **37 CFR 41.37(b)**

The filing is timely. Accordingly, this subsection is not relevant.

III. **37 CFR 41.37(c)(1)(i) Real party in interest**

The real party in interest is SIEMENS Aktiengesellschaft, a German corporation.

IV. **37 CFR 41.37(c)(1)(ii) Related appeals and interferences**

There are no related pending appeals, pending interferences, or requests for interferences known to the appellant's representative or the appellant's assignee.

V. **37 CFR 41.37(c)(1)(iii) Status of claims**

Claims 10-22 are pending, rejected, and under appeal. Claims 1-9 are canceled.

VI. **37 CFR 41.37(c)(1)(iv) Status of amendments**

An amendment under 37 CFR 1.116 was filed July 23, 2004, adding new claims 23-25. The examiner did not enter this amendment.

VII. **37 CFR 41.37(c)(1)(v) Summary of claimed subject matter**

A. **Concise explanation of the subject matter of independent claim 10**

The subject matter of claim 10 is a method for signaling in a signaling transfer point, comprising the steps of:

routing signaling messages from source signaling points in a direction toward destination signaling points; [page 1 lines 2-5; Figure 1]

checking at least one of a presence of a loop and a possibility of the presence of the loop over a departing link set by at least one of a routing test and a real time method; [page 1 line 20 to page 2 line 12; Figure 1]

and automatically withholding a transfer of said signaling messages via a pertinent linkset upon a positive check result outcome of said checking step. [page 3 lines 13-28; Figure 2; Figure 3]

B. **Concise explanation of the subject matter of independent claim 17**

The subject matter of claim 17 is a signaling system of a signaling transfer point,

comprising:

a checker for detection of at least a loop or a possibility of a presence of said loop over a departing linkset to a destination signaling point, said checker utilizes at least one of a routing test and a real time method, [page 1 line 20 to page 2 line 12; Figure 1]

wherein when a positive check result outcome is obtained transfer of signaling messages via pertinent linksets are automatically withheld. [page 3 lines 13-28; Figure 2; Figure 3]

VIII. **37 CFR 41.37(c)(1)(vi) - Grounds for rejection to be reviewed on appeal**

Claims 10, 11, and 16-22 stand rejected under 35 USC 102(b) as being anticipated by US Patent No. 5,583,848 to Glitho ("Glitho").

Claims 12 and 13 stand rejected under 35 USC 103(a) as being obvious over Glitho in view of US Patent No. 6,044,402 to Jacobson et al. ("Jacobson").

Claims 14 and 15 stand rejected under 35 USC 103(a) as being obvious over Glitho in view of US Patent No. 5,014,262 to Harshavardhana ("Harshavardhana").

IX. **37 CFR 41.37(c)(1)(vii) Argument**

A. **The Rejections of Claims 10, 11, and 16-22 Under 35 USC 102(b) As Being Anticipated by Glitho**

1. **The Examiner's Arguments**

The examiner rejects claims 10, 11, and 16-22 under 35 USC 102(b) as being anticipated by Glitho, stating that:

> Regarding claim 10, a method for signaling in a signaling transfer point (Glitho: col. 1, lines 24-29, lines 10-12), comprising the steps of:
>
> routing signaling messages from source signaling points in a direction toward destination signaling points (Glitho: col. 3, lines 3-5);
>
> checking at least one of a presence of a loop (Glitho: col. 6, lines 29-47) and a possibility of the presence of the loop (Glitho: col. 6, lines 44-47) over a departing link set at least one of a routing test (Glitho: col. 3, lines 17-21) and a real time method (Glitho: col. 6, lines 24-27); and
>
> automatically withholding a transfer of said signaling messages via a pertinent linkset upon a positive check result outcome of said checking step

(Glitho: col. 6, lines 3-6, lines 19-47).

Regarding claim 11, a method according to claim 10, further comprising the steps of:

sending test messages via a link set to destinations that said linkset can reach upon said positive check result outcome (Glitho: col. 3, lines 3-5); and

automatically withholding transfer of said signaling messages to a destination that had returning test messages upon return of said test messages (Glitho: col. 6, lines 3-6, lines 19-47).

Regarding claim 16, a method according to claim 10, further comprising the step of checking a new current route for absence of loops in the signaling transfer point, immediately after blocking a linkset in said loop (Glitho: col. 5, lines 37-55; the routing information gathered from primarily then secondary links).

Regarding claim 17, a signaling system of a signaling transfer point (Glitho: col. 1, lines 24-29, lines 10-12), comprising:

a checker for detection (Glitho: col. 6, lines 19-27) of at least a loop (Glitho: col. 6, lines 19-27) or a possibility of a presence of said loop (Glitho: col. 6, lines 44-47) over a departing linkset to a destination signaling point (Glitho: col. 6, lines 44-47), said checker utilizes at least one of a routing test (Glitho: col. 3, lines 17-21) and a real time method (Glitho: col. 3, lines 17-21), wherein when a positive check result outcome is obtained transfer of signaling messages via pertinent linksets are automatically withheld (Glitho: col. 6, lines 3-6).

Regarding claim 18, a signaling system according to claim 17, further comprising:

a verifier for detection of said possibility of the presence of said loop (Glitho: col. 3, lines 17-21; col. 6, lines 44-47), said verifier sends test messages to destinations reachable via said departing linkset before said signaling (Glitho: col. 3, lines 17-21) system withholds said transfer of signaling messages to a destination for which said test messages return (Glitho: col. 6, lines 3-6).

Regarding claim 19, the method of claim 10, wherein said checking is by a routing test (Glitho: col. 3, lines 17-21).

Regarding claim 20, the method of claim 10, wherein said checking is by a real time method (col. 6, lines 24-27 show it tests with live data, which is real time data).

Regarding claim 21, the signaling system of claim 17, wherein said checker utilizes a routing test (Glitho: col. 3, lines 17-21).

Regarding claim 22, the signaling system of claim 17, wherein said checker utilizes a real time method (col. 6, lines 24-27 show it tests with live data, which is real time data). [Office action page 2 line 18 through page 3 line 29.]

2. The Applicant's Response - Independent Claim 10

a. Summary of Argument

Claim 10 recites "...checking ...a presence of a loop... by...a routing test and a real time method; and *automatically withholding* a transfer of said *signaling messages* via a pertinent linkset upon a positive check result outcome of said checking step." Claim 10; emphasis added. The applicant submits that the examiner's construction of the recited claim term "automatically withholding a transfer of said signaling messages via a pertinent linkset upon a positive check result outcome of said checking step." is in error.

As will be explained below, the claim term "automatically witholding....signaling messages" is properly construed to mean "independent and self-regulated blocking of looping signaling messages "

When properly construed, claims 10-22 of this application cover the following advantageous novel features not disclosed by Glitho: the automatic, real time detection and breaking of message loops in a live SS7 system without the use of human operators and without a requirement to repair faulty routing tables.

When the recited claim term "automatically withholding" is properly construed in light of the applicant's specification and in light of the ordinary dictionary meaning of the term, the recited claim limitation *"automatically withholding* a transfer of said *signaling messages*" does

not read on Glitho. Therefore, Glitho does not disclose the subject matter of claim 10. Therefore, Glitho does not anticipate claim 10.

b. **The Construction of the term "...checking ...a presence of a loop... by...a routing test and a real time method" recited in claim 10**

i. **"routing test"**

When properly construed, the term "routing test" recited in claim 10 means at least the MTP route verification test (MRVT) disclosed in the specification of this application. The specification of this application discloses, for example, that:

> [t]he standard (Q.753, Q.754) defines another solution of the problem, known as the MTP route verification test (MRVT). This test checks all possible paths in an MTP network between two given points for correctness, including the absence of loops. [Specification page 2 lines 1-4.]

The following passages, for example, of the specification of this application are also relevant to the correct construction of the term "routing test" recited in claim 10:

> Furthermore, it is noteworthy to state that given the *possible loops* that were detected by the MRVT or a real-time method for a linkset, to check for loops prior to using the automatic correction measures (the MRVT, namely, does not supply any statements whether a possible loop is also being employed at the timer and, under certain circumstances, the real-time method cannot make any statements about the destination to which a possible loop is present). This check ensues by *sending otherwise unemployed MTP network management messages* to the destinations that can be reached (according to the routing) via the pertinent linkset. When such *test messages return to the STP*, these messages are detected by comparing the OPC contained in the message to the point code of the STP, and loop(s) are thus detected. Accordingly, correction measures can remain limited to loops being currently selected.
>
> This check with the assistance of test messages is useful when it is applied

in only one STP since all loops that run through this STP can be detected. The *check method can also always remain active.*

Clearly, the MTP route verification test embodiment disclosed by the applicant runs in a *live* SS7 network using "otherwise unemployed MTP network management messages." and "can also always remain active." Therefore, one of ordinary skill in the art would recognize that the "routing test" recited in claim 10 runs *on-line*, that is, in real-time in an real SS7 network.

ii. **"real-time method"**

A dictionary definition of the term "real-time" is "of or relating to computer systems that update information at the same rate as they receive data, enabling them to direct or control a process such as an automatic pilot." www.dictionary.com.

In support of the proper construction of the term "real-time method" as recited in claim 10, the specification of this application discloses, for example, that "[t]his problem can be solved by a *real-time method* that recognizes the possibility of a loop, for example, due to a *lasting overload* on a linkset." Specification page 1 lines 27-28; emphasis added.

A dictionary definition of the term "overload" is "fill to excess so that function is impaired." www.dictionary.com. One of ordinary skill in the art would recognize that the term "a lasting overload" when used in the context of the present invention (SS7 networks) means "an abnormally high number of SS7 messages being transmitted per unit time on a SS7 linkset for an extended period of time." One of ordinary skill in the art would also recognize that such an "overload" may be caused by "looping" SS7 signaling messages. This is because looping messages cycle endlessly through the SS7 network traversing links repeatedly without ever reaching their proper destination. Therefore, a SS7 linkset which forms portion of a loop would tend to show abnormally high rates of message activity. Also, one of ordinary skill in the art would recognize that the measurements used to detect such an an "overload" would necessarily have to be done in real-time on a *live* SS7 system in order to accurately measure message traffic on each linkset. For example, one of ordinary skill in the art would recognize that counting the number of messages traversing a linkset per unit time in order to detect an overload is a real-time measurement that is done while the SS7 network is actually *up and running*. Therefore,

one of ordinary skill in the art would recognize that real-time tests performed to detect an "overload" are done on-line while the SS7 system is active.

c. **The Construction of the Term "automatically withholding a transfer of said signaling messages" Recited in Claim 10**

i. **"automatically"**

A dictionary definition of the term "automatically" is "acting or operating in a manner essentially independent of external influence or control; self-regulating." www.dictionary.com.

The following exemplary passage from the specification of this application is relevant to the correct construction of the term "automatically" recited in claim 10:

> The present invention particularly reveals how, given real-time recognition of loops having a length of more than 2 and/or upon recognition of loops by the MRVT, the *loops can be broken by automatic, real-time, protocol-compatible methods* that are simple to realize. Accordingly, the operators can promptly take corrective measures.

Thus, one of ordinary skill in the art would recognize that in the context of SS7 messaging loop detection systems the limitation defined by the recitation "automatically" means"without operator action as soon as a loop is detected and without unnecessary disruption of normal SS7 messages." This construction of the term "automatic" is a construction that is entirely consistent with the use of the terms "real-time" and "protocol-compatible" associated with the term "automatic" as disclosed in the passage from the specification of this application cited above ("automatic, real-time, protocol-compatible"). Therefore, the artisan would recognize that in the context of SS7 networks claim 10's limitation "automatically" necessarily implies the characteristics of being both "real-time" and protocol-compatible."

In summary, then, the proper construction of claim 10's recitation "automatically" is "without operator action as soon as a loop is detected and without unnecessary disruption of normal SS7 messages."

ii. **"withholding"**

A dictionary definition of the term "withholding" is "to hold back from action; check."

Webster's Ninth New Collegiate Dictionary.

The following exemplary passages of the specification of this application are relevant to the correct construction of the term "withholding a transfer of said signaling messages" recited in claim 10:

> When a loop to a destination X is detected in an STP A by the MRVT or by real-time methods, one can proceed in the following way for *breaking the loop*:
>
> a) *Breaking the loop "downstream"* in that *the specific departing path to this destination is blocked* in the routing table in A. This step can, in particular, be applied when other paths proceeding from A to X are also available. Accordingly, it is recommended to also check the route selected as an alternative for the occurrence of a loop. Although the lack of a detection of a loop does not guarantee that there is not some other loop that does not contain A, there is at least a probability that the problem has been eliminated.
>
> b) Alternatively, or if, for example, there no longer happens to be an alternate (loop-free) route proceeding from A, the *loop can be broken "upstream"*, i.e. to the preceding STP B on the loop, in that *A sends B a transfer prohibited message* with respect to X. In response, *B will reroute or stop the traffic to X*. Since B will subsequently and periodically review the availability of the route to X via A with what are referred to as route set messages, it must be assured that A does not answer these messages with a transfer allowed, since B could otherwise re-close the loops. [Specification page 2 line 20 to page 3 line 28; emphasis added.]

One of ordinary skill in the art would recognize that the limitation defined by claim 10's recitation "withholding ...signaling messages" means "blocking transmission of looping SS7 messages."

Because the method of claim 10 defines "automatically withholding ...signaling messages," the method of claim 10 enables SS7 systems with incorrectly configured or faulty

routing tables to immediately recover correct operation without time-consuming human intervention. The novel method of claim 10 breaks message loops *immediately* upon the detection of the loops and *does not require repairing the defects in the SS7 routing tables.* One of ordinary skill in the art would recognize that repairing faulty routing tables, as required by Glitho and other prior art systems, generally requires (1) human intervention by maintenance personnel and (2) significant amounts of time to propagate new routing table information throughout the SS7 system. In contrast, the novel method of claim 10 breaks signaling loops "automatically" and thereby achieves correct system operation *despite* the presence of faulty routing tables.

d. **The Citations From Glitho Relied Upon By the Examiner Do Not Anticipate the Subject Matter Defined By Claim 10**

In rejecting claim 10, the examiner relies upon United States patent 5,583,848 to Glitho ("Glitho") at column 6 lines 3-47, which states that:

> ...This MRVT process is conducted in the operation system and as a result *no live signals or messages are sent through the SS7 signalling network* from the start node to the destination node. [Glitho at column 6 lines 3-6; emphasis added.]

The examiner further relies upon Glitho at column 6 lines 19-47, which states that:

> In the second phase or step, the MRVT algorithm is run in the operation system on the collected data. The algorithm will detect the fault "unknown destination" at node 14. It should be understood that while this specific fault can be detected during collection of routing data, some other fault conditions cannot be detected at this stage. Accordingly, *it is important to first collect the routing data and then simulate the MRVT test on the data collected "live" from the network in the operation system.*
>
> Referring to FIG. 5, there is shown a table having routing information which results in looping of the message. To better understand the effect of the routing information shown in Table 5 on the communication of the message within the network, reference may be had to FIG. 6 which shows the message

tree for the routing information of FIG. 5. From FIG. 6, a sampling of the operation system contains a sample of the tables in similar fashion as that described with respect to FIG. 3. However, it should be noted that in the left most path node 18 has a loop to node 14. Thus, it would be possible in some instances for a message traveling in through the routing data of this Table to be connected into a channel where the information would just loop within the channel and never make it to the destination node. With respect to node 20, it is also seen that node 20 has an alternative link set that defines a path that can result in a message not making it to the destination but being returned to node 18. This creates another potential loop in the routing of a message through the network. Once the data is collected from the routing tables, *the MRVT algorithm is run in the operation system 50* and it detects all loops in the network. [Glitho at column 6 lines 19-47; emphasis added.]

The applicant respectfully submits that, as explained below, the above cited passages from Glitho do not disclose or anticipate the subject matter defined by claim 10.

e. **Glitho Does Not Anticipate "automatically withholding a transfer of said signaling messages ...upon a positive check result outcome of said checking step"**

The applicant respectfully submits that the citations to Glitho relied upon by the examiner in rejecting claim 10 do not disclose "automatically withholding a transfer of said signaling messages ...upon a positive check result outcome of said checking step," as recited in claim 10. The system taught by Glitho must operate *off-line*. Therefore, the system taught by Glitho *cannot* perform the method defined by claim 10. Therefore, Glitho does not disclose the subject matter defined by claim 10.

f. **Glitho's Operation System Only Operates Off-line**

In contrast to the applicant's system, the operation system taught by Glitho runs *off-line*, as disclosed by Glitho at column 2 line 65 to column 3 line 11, which states that:

In accordance with an aspect of the present invention there is provided a

> method for auditing routing information in a packet switching network. The method involves utilizing the telecommunications management network (TMN) to *sample and collect* through a general purpose management interface routing table information at nodes in the operating network for a test message sent from a test initiator node to a final destination node through intermediate nodes. The telecommunications management network subsequently *runs verification tests* on the collected routing table information *apart from the packet switching network.* This method has the advantage that the *verification test is not run on the network* and still tests through simulation actual table routing information used by nodes in the network. [Glitho at column 2 line 65 to column 3 line 11; emphasis added.]

Clearly, one of ordinary skill in the art would recognize that "...runs...apart from the packet switching network..." and "is not run on the network" means "runs off-line."

The contrast between the applicant's system, as claimed in claim 10 and disclosed in the applicant's specification, is further demonstrated by the following passage from Glitho at column 5 lines 15-22, which states that:

> In accordance with the present invention, the *operation system 50 is adapted to conduct routing verification tests* of the nodes in the network in the SS7 signalling network. At a *predetermined instant in time*, the operation system will conduct a test for a chosen initiation node and a chosen destination node. The operation system will first *sample at a predetermined time* the routing table information in the initiation node 12. Upon receipt of this information, the operation system will *sample the routing table* information in the one or more nodes connected to the primary link set and any alternative nodes connected through alternative link sets from the start up node 12. [Glitho at column 5 lines 15-22; emphasis added.]

Thus, Glitho's disclosed operation system only runs a routing test at a "predetermined time,"

that is, not continuously. Therefore, one of ordinary skill in the art would conclude that Glitho's operation system runs off-line.

In addition to the passages from Glitho noted above, the contrast between the applicant's system,as claimed in claim 10 and disclosed in the applicant's specification, is further demonstrated by the following passage from Glitho at column 5 line 66 to column 6 line 6, which states that:

> The operation system operates in a fashion to collect the routing table information. The MRVT algorithm as specified today is then run in the operation system using the routing data collected from the network....This *MRVT process is conducted in the operation system* and as a result *no live signals or messages are sent through the SS7 signalling network* from the start node to the destination node. [Glitho at column 5 line 66 to column 6 line 6; emphasis added.]

Because the MRVT process disclosed by Glitho above runs only in Glitho's operation system and not in the SS7 network, one of ordinary skill in the art would recognize that Glitho's method runs *off-line*, in contrast to the applicant's *on-line* method as claimed in claim 10.

g. **Glitho's Off-line Operation System Cannot "Automatically" Withhold Signaling Messages**

Because the loop detection system disclosed by Glitho operates *off-line*, one of ordinary skill in the art would recognize that Glitho's system cannot break SS7 signaling loops automatically in a live SS7 network by "automatically witholding signalling messages," as defined by claim 10. That is, Glithos's system cannot break a SS7 signaling loop soon as a potential loop is detected and without operator intervention. This is because breaking loops with Glitho's system requires modifiying the routing tables of the live SS7 network in order to correct a detected potential routing error. There is no teaching or suggestion in Glitho that Glitho's off-line "operation system 50" can *modify* SS7 routing tables (in order to break signaling loops) without operator intervention. Glitho only discloses that operation system 50 can *sample* SS7 routing tables.

Therefore, one of ordinary skill in the art would recognize that Glitho's system cannot

automatically break loops by "automatically withholding a transfer of said signaling messages ...upon a positive check result outcome of said checking step," as recited in claim 10. Therefore, Glitho does not disclose the subject matter of claim 10. Therefore, claim 10 is not anticipated by Glitho. Therefore, the rejection of claim 10 under 35 USC 102 is improper and should be reversed.

3. **Claims 11, 16, 19 and 20 - Dependency On an Allowable Claim**

Dependent claims 11, 16, 19, and 20 depend from independent claim 10. Therefore, claims 11, 16, 19, and 20 are not anticipated by Glitho because Glitho does not disclose all the limitations of base claim 10 for the reasons given above. Therefore, the rejections of claims 11, 16, 19, and 20 are improper and should be reversed.

4. **Independent Claim 17 - "...when a positive check result outcome is obtained transfer of signaling messages via pertinent linksets are automatically withheld..."**

Claim 17 recites:

> a checker for detection of at least a loop or a possibility of a presence of said loop over a departing linkset to a destination signaling point, said checker utilizes at least one of a *routing test and a real time method*, wherein when a positive check result outcome is obtained *transfer of signaling messages* via pertinent linksets are *automatically withheld.* [Claim 17; emphasis added.]

Claim 17 recites the same limitations as claim 10. Therefore, claim 17 is not anticipated by Glitho because Glitho does not disclose all the limitations of claim 17 for at least the reasons given above for claim 10. Therefore, the rejection of claim 17 under 35 USC 102 is improper and should be reversed.

5. **Claims 18, 21, and 22 - Dependency On an Allowable Claim**

Dependent claims 18, 21, and 22 depend from independent claim 17. Therefore, claims 18, 21, and 22 are not anticipated by Glitho because Glitho does not disclose all the limitations of base claim 17 for the reasons given above for claim 10. Therefore, the rejections of claims 18, 21, and 22 under 35 USC 102(b) as being anticipated by Glitho should be reversed.

B. **The Rejections of Claims 12 and 13 Under 35 USC 103(a) as Obvious Based Upon Glitho in View of Jacobson**

The examiner rejects claims 12 and 13 under 35 USC 103(a) as being obvious over Glitho, in view of Jacobson, stating that:

Regarding claim 12,

The Glitho reference teaches a system of testing routing paths before sending data.

The Glitho reference does not explicitly state the blocking of packets based on destination and port.

The Jacobson reference teaches a method according to claim 10, further comprising the step of withholding transfer of said signaling messages to downstream pertinent destinations by blocking a specific departing link set of said pertinent destination in a routing table of said signaling transfer point (Jacobson: col. 13, lines 20-25; lines 56-59).

The Jacobson reference further teaches the network connection blocker combines routing packets with a blocking module to decrease the number of devices in a network, which can act as bottlenecks and can be vulnerable to attack (Jacobson: col. 2, lines 7-15; col. 1, lines 55-64).

Therefore it would have been obvious at the time of the invention to one of ordinary skill in the art to create the system of checking signal transfer source and destination paths for loops before sending data as taught by Glitho while blocking packets based on destination and port as taught by Jacobson to decrease the number of devices in a network which can act as bottlenecks and can be vulnerable to attack (Jacobson: col. 2, lines 7-15; col. 1, lines 55-64).

Claim 13 is rejected under the same rationale given above. In the rejections set forth, the examiner will address the additional limitations and point to the relevant teachings of Glitho and Jacobson.

Regarding claim 13, a method according to claim 10, further comprising the step of:

withholding transfer of said signaling messages to upstream pertinent destinations via the pertinent link set by sending transfer prohibiting messages by the signaling transfer point regarding a destination signaling point to a preceding signaling transfer point (Jacobson: col. 13, lines 20-25; lines 56-59), where upon said preceding signaling transfer point will at least perform one of a functions of rerouting traffic to the destination signaling point and stopping said traffic to the destination signaling point (sic) (Jacobson: col. 13, lines 20-25; lines 56-59; col. 3, lines 41-56). [Office action page 3 line 36 through page 4 line 19.]

1. **Dependency On an Allowable Claim**

Dependent claims 12 and 13 depend from independent claim 10. Therefore, claims 12 and 13 are not obvious in view of Glitho in combination with Jacobson for at least the reasons given above for claim 10. The examiner did not reject base claim 10 under 35 USC 103, and the examiner provided no reasoning why the limitations of the base claim which appellant asserts Glitho lacks would have been obvious in view of Glitho. Therefore, the rejections of claims 12 and 13 under 35 USC 103(a) as being obvious over Glitho in view of Jacobson are improper and should be reversed.

2. **No *Prima Facie* Rejection**

There is no teaching in Glitho or Jacobson that discloses or suggests "...*automatically withholding* a transfer of said *signaling messages*...," recited by claim 10 and defined in this application. The examiner has not made a proper *prima facie* rejection under 35 USC 103(a) of claims 12 and 13 because: (1) the examiner has not shown that Glitho discloses the all the limitations of base claim 10 from which claims 12 and 13 depend.; and (2) the examiner supplies no reasoning how or why the artisan would have modified the teachings of Glitho in view of the teachings of Jacobson to produce the limitation "...*automatically withholding* a transfer of said *signaling messages*...," recited by base claim 10. Therefore, the rejections of claims 12 and 13 are improper and should be reversed.

C. **The Rejections of Claims 14 and 15 Under 35 USC 103(a) as Obvious Based Upon Glitho in View of Harshavardhana**

The examiner has rejected claims 14 and 15 under 35 USC 103(a) as being obvious over Glitho, in view of Harshavardhana, stating that:

> Regarding claim 14,
>
> The Glitho reference teaches a system of testing routing paths before sending data.
>
> The Glitho reference does not explicitly state the breaking out of a loop.
>
> The Harshavardhana reference teaches a method according to claim 10, further comprising the step of controlling an interruption of said loop by an operations maintenance and administration part (Harshavardhana: col. 2, lines 42-51; col. 12, lines 60-63).
>
> The Harshavardhana reference further teaches breaking out of loops prevents network inefficiencies like the tying up all the virtual circuits available and requiring retransmission, or traveling through too many switching nodes, or causing the network to be unreachable.
>
> Therefore if would have been obvious at the time of the invention to one of ordinary skill in the art to create the system of checking signal transfer source and destination paths for loops before sending data as taught by Glitho while providing a means to break out of loops as taught by Harshavardhana in order to increase network efficiency by avoiding tying up all the virtual circuits available and requiring retransmission, or traveling through too many switching nodes, or causing the network to be unreachable.
>
> Claim 15 is rejected under the same rationale given above. In the rejections set forth, the examiner will address the additional limitations and point to the relevant teachings of Glitho and Harshavardhana.
>
> Regarding claim 15, a method according to claim 10, further comprising the step of: controlling an interruption of said loop by a message transfer part (Harshavardhana: col. 2, lines 42-51; col. 12, lines 7-12; lines 23-24). [Office

action page 4 lines 20-38.]

1. **Dependency On an Allowable Claim**

Dependent claims 14 and 15 depend from independent claim 10. Therefore, claims 14 and 15 are not obvious in view of Glitho in combination with Harshavardhana for at least the reasons given above for claim 10. The examiner did not reject base claim 10 under 35 USC 103, and the examiner provided no reasoning why the limitations of the base claim which appellant asserts Glitho lacks would have been obvious in view of Glitho. Therefore, the rejections of claims 14 and 15 under 35 USC 103(a) as being obvious over Glitho in view of Harshavardhana are improper and should be reversed.

2. **No *Prima Facie* Rejection**

There is no teaching in Glitho or Harshavardhana that discloses or suggests "...*automatically withholding* a transfer of said *signaling messages*...," recited by claim 10 and defined in this application. The examiner has not made a proper *prima facie* rejection under 35 USC 103(a) of claims 14 and 15 because: (1) the examiner has not shown that Glitho discloses the all the limitations of base claim 10 from which claims 14 and 15 depend.; and (2) the examiner supplies no reasoning how or why the artisan would have modified the teachings of Glitho in view of the teachings of Harshavardhana to produce the limitation "...*automatically withholding* a transfer of said *signaling messages*...," recited by base claim 10. Therefore, the rejections of claims 14 and 15 are improper and should be reversed.

D. **Conclusion: Claims 10-22 Are Not Anticipated By or Obvious In View of Glitho, Jacobson, and Harshavardhana**

For all the reasons given above the applicant respectfully submits that claims 10-22 are not anticipated by or obvious in view of Glitho, Jacobson, and Harshavardhana. Therefore, the applicant respectfully submits that the final rejection of claims 10-22 should be reversed.

Respectfully Submitted,

10/7/2004 Robert G. Crockett

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31518

PATENT TRADEMARK OFFICE

X. 37 CFR 41.37(c)(1)(viii) - Claims appendix

1-9. (Cancelled)

10. A method for signaling in a signaling transfer point, comprising the steps of:

routing signaling messages from source signaling points in a direction toward destination signaling points;

checking at least one of a presence of a loop and a possibility of the presence of the loop over a departing link set by at least one of a routing test and a real time method; and

automatically withholding a transfer of said signaling messages via a pertinent linkset upon a positive check result outcome of said checking step.

11. A method according to claim 10, further comprising the steps of:

sending test messages via a link set to destinations that said linkset can reach upon said positive check result outcome; and

automatically withholding transfer of said signaling messages to a destination that had returning test messages upon return of said test messages.

12. A method according to claim 10, further comprising the step of withholding transfer of said signaling messages to downstream pertinent destinations by blocking a specific departing link set of said pertinent destination in a routing table of said signaling transfer point.

13. A method according to claim 10, further comprising the step of:

withholding transfer of said signaling messages to upstream pertinent destinations via the pertinent link set by sending transfer prohibiting messages by the signaling transfer point regarding a destination signaling point to a preceding signaling transfer point, where upon said preceding signaling transfer point will at least perform one of a functions of rerouting traffic to the destination signaling point and stopping said traffic to the destination signaling point.

14. A method according to claim 10, further comprising the step of controlling an interruption of said loop by an operations maintenance and administration part.

15. A method according to claim 10, further comprising the step of controlling an interruption of said loop by a message transfer part.

16. A method according to claim 10, further comprising the step of checking a new current route for absence of loops in the signaling transfer point, immediately after blocking a linkset in said loop.

17. A signaling system of a signaling transfer point, comprising:

a checker for detection of at least a loop or a possibility of a presence of said loop over a departing linkset to a destination signaling point, said checker utilizes at least one of a routing test and a real time method, wherein when a positive check result outcome is obtained transfer of signaling messages via pertinent linksets are automatically withheld.

18. A signaling system according to claim 17, further comprising:

a verifier for detection of said possibility of the presence of said loop, said verifier sends test messages to destinations reachable via said departing linkset before said signaling system withholds said transfer of signaling messages to a destination for which said test messages return.

19. The method of claim 10, wherein said checking is by a routing test.

20. The method of claim 10, wherein said checking is by a real time method.

21. The signaling system of claim 17, wherein said checker utilizes a routing test.

22. The signaling system of claim 17, wherein said checker utilizes a real time method.

XI. **37 CFR 41.37(c)(1)(ix) - Evidence appendix**

This section is not relevant in this appeal.

XII. **37 CFR 41.37(c)(1)(x) - Related proceedings appendix**

Applicant submits that there are no related proceedings in this appeal.

RGC

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